baracoda Traceability

Data Capture
for Workforce
in Motion

D-Fly User Guide

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Bluetooth

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Revision History

Changes to the original manual are listed below.

Document	Date	Description
1.0	10 July 07	Initial release
1.1	13 July 07	Correction about Plug&Scan solutions
1.2	08 Aug 07	Update Safety/Regulatory information
1.3	07 March 08	Update graphic presentation
1.4	16 June 08	Update Safety/Regulatory information
1.5	25 Aug. 08	Add “The different connection method” section
1.6	15 Oct. 08	Modify the MASTER mode section.
1.7	22 Sept. 09	Modify the Reading Modes section to add the No Duplicate Scan option.
1.8	12 Nov 09	Add remote trigger BT command
1.9	10 feb 10	Precision on ‘no duplicate scan’ feature

Introduction

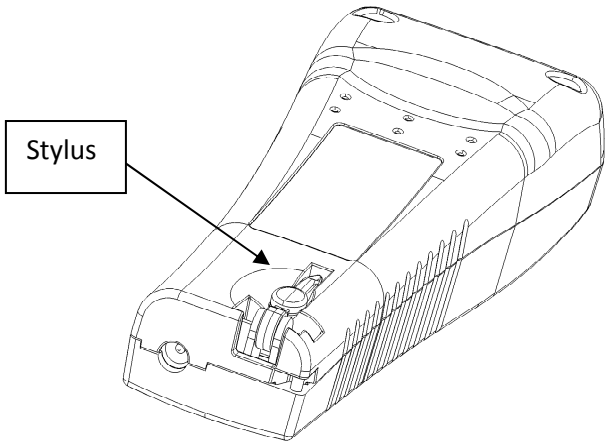
The D-Fly is easy to use. Just press the trigger button in order to switch on the scanner and simply press it again to scan a barcode. The colours of the LED and the frequency of the flashing LED indicate the status of the device. The Scanner will “beep” in different ways and the LED will flash to indicate the status of the D-Fly scanner. Some examples of D-Fly scanner status changes are “connected”, “good read”, “not connected”, and more. The “No Data Loss Mode” function on the D-Fly will store the last fifty (50) barcode scans and this mode can be activated or deactivated by the end user.

Barcodes are transmitted in real time to the remote host device or terminal using Bluetooth wireless technology. You can download all software updates and additional documentation from our website:

http://www.baracoda.com/

1. Stylus

You can use the stylus with your PDA, TabletPC or other types of touch screens. The stylus is retractable and detachable for security reasons.



In case of loss of your stylus, contact you locate reseller.

2. Battery

Recharge the internal battery by using the included AC adapter. The Adapter rating is 5V, 500mA.

When the scanner is charging, the LED is red (solid).

When the scanner is fully charged, the LED is green (solid).

A full recharge (from completely drained batteries) takes approximately 1 hour.

When the original batteries wear out, please contact your Baracoda reseller for replacements.

3. Switching on the reader

Remember to fully charge the battery before first use.

In order to switch on the scanner, please press the trigger button.

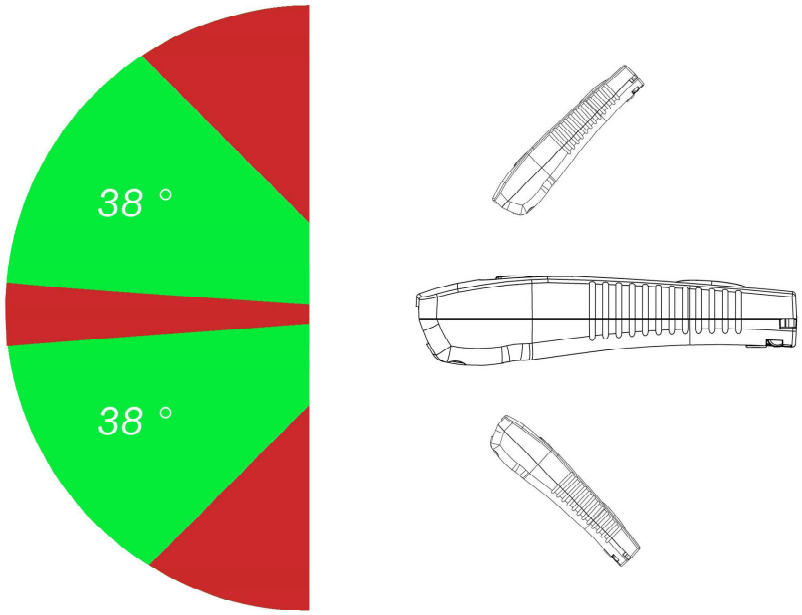
The scanner will switch off after some period of inactivity. The default time period is ten (10) minutes of scanner inactivity if the device is not connected via Bluetooth, and twenty (20) minutes of scanner inactivity if the device is connected via Bluetooth and if the user don't press the trigger button. These default values can be modified by the end user.

4. Quick Start up guide

4.1. How to read barcodes

In order to switch on the scanner, please press the trigger button.

Proper scanning position



Position the scanner so the light beam fully overlaps and crosses the bar code. The scanner will emit a beep when the scan is successful.

4.2. The different usage modes

Real Time mode

In real time mode, the barcode is decoded and transmitted to the remote host without any delay. If the scanner is not connected, the data is lost (Status Led: red flash).

Real Time mode with No Data Loss option

If the No Data Loss option is activated and if the scanner is not connected or out of Bluetooth range, the scanner will store the data. It can memorise up to 50 barcodes (UPC format) and later automatically upload them to the remote host when a Bluetooth connection is established to the host.

Every barcode sent to the host must be acknowledged by the host. If the host fails to send an acknowledgement, the scanner will continue to transmit the barcode until the host does send an acknowledgement.

This acknowledgment is disabled in the default settings. It is strongly recommended to set the No Data Loss mode to ON. This configuration can be set with the BaracodaManager software or with the Programming Guide.

Additionally, this protocol acknowledgment allows an end user to set an audio acknowledgment indicating that the barcode has been successfully transmitted to the host.

4.3. The different connection methods

There are two (2) different way to create a connection from a Host and a scanner:

- **Slave mode (by default)**

The Host (PC, BaracodaManager, …) is creating the connection onto the scanner.

- **Master mode**

The scanner is creating itself a connection to the recorded Host Bluetooth address. This connection attempt is set after a scan of barcode. The configuration of Host address (on which the scanner will set up a connection to) can be done:

  - Via BaracodaManager software (v3.35 min).
  - Via scan of barcodes.

All usage modes (Real Time, No Data Loss, Batch) are obviously available.

4.4. The different reading modes

D-Fly has two (2) reading modes. These modes can be changed through both the BaracodaManager software and the Programming Guide.

4.4.1. Trigger mode (default setting)

Simply press the trigger when you want to scan a barcode.

Via Bluetooth, a command can be sent to the scanner in order to emulate a press on the trigger to scan a barcode (see *remote trigger* cmd in communication protocol document)

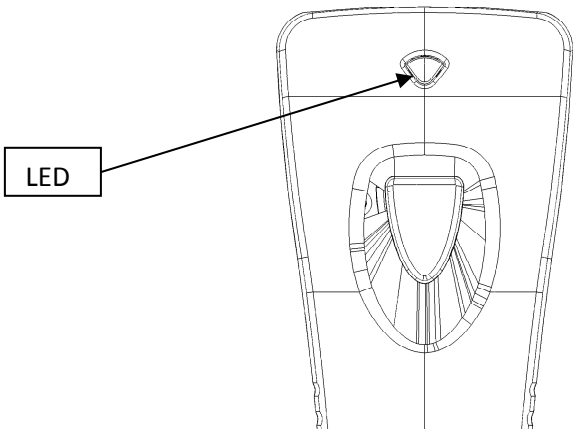
4.4.2. Aiming mode

The Aiming mode has been developed for users who need to scan barcodes very close one to another and need to avoid reading a wrong code. Once in this mode, in order to read a barcode user will have to press the trigger twice. Pressing it the first time will switch on the beam but will not switch on the decoder (thus allowing user to aim at the correct barcode) while pressing the trigger the second time will activate the decoder thus allowing the D-Fly to actually decode the barcode.

Option: D-Fly allows the “No duplicate scans” feature activation. It avoids user to scan consecutively twice in the same barcode. By default, this option is disabled, but can be changed through both BaracodaManager software or Programming Guide.

5. Status Display Summary

The D-Fly has a LED to indicate all of the functions described below.



Operating Mode	LED	Status	Description
Battery	Orange/green	Flash	In Charge
	Green	Full	Charge completed
	Red	Flash	Battery Low
	Red	One single long Flash	Battery low, Switch Off
Scan barcode	Green	One Single long Flash	Good read
	Orange	Flash	No Host Transmission
	Red	Flash	Barcode Lost
	Green	Double Flash	Connected to Host

6. The different ways to connect D-Fly to a host

Baracoda proposes three (3) ways to simplify this process. Just choose the most appropriate one according to your specific needs.

6.1.1. For users: Complete Plug&Scan hardware solutions

The easiest way to connect a Baracoda scanner with a host computer is to use the Baracoda Plug and Scan Bluetooth dongles. Baracoda offers the RS232 Plug&Scan Bluetooth serial dongle or the USB Plug&Scan Bluetooth dongle to get connected to a host computer. To use one of these devices:

1. Plug the dongle into the USB port or into the RS232 port of the computer.
2. Wait 5 seconds for the host computer to recognize the Plug&Scan dongle.
3. Scan the "Connect barcode" available on the Plug & Scan dongle just once.
4. Within less than 20 seconds the LED on the scanner will start double flashing green: you are now paired and connected!

For the USB Plug and Scan Dongle: Once the dongle is connected to the D-fly scanner open the target application (such as Notepad, Excel and Word). Make sure the active cursor is where the user wants the barcode information to be placed and start scanning barcodes.

For the RS232 Plug and Scan Dongle, the application will have to receive the information from the serial port in order for the application to receive data from the serial port download the Kemul Software on the Baracoda Website http://www.baracoda.com/

Pease note that the D-Fly scanners are set by the Baracoda Plug&Scan USB in "no data loss mode" ON by default.
The No Data Loss mode allows the reader to buffer barcodes if the barcodes are read out of range.

6.1.2. For users: software solutions

Baracoda provides two different software packages to manage the Baracoda Bluetooth barcode devices:

- K-Emul lets you insert the scanned barcode value in the selected field. It also allows adding a prefix and a suffix.
- BaracodaManager is a user-friendly, advanced software that inserts the scanned barcode in a text field of the target application (Kemul plug-in) or displaying the barcode (Terminal plug-in), presents the following features: very easy connection (one click connectivity), automatic reconnection, buffers data in memory and automatic re-transmission.

Please check the compatibility for some specific hosts (see BaracodaManager compatibility table on www.baracoda.com).

How to quickly verify that your scanner is working correctly, using the BaracodaManager:

1. Make sure that your host device (PC or PDA) is Bluetooth enabled. If not, please contact your reseller.
2. Install the BaracodaManager (updates can be downloaded from http://www.baracoda.com/). Refer to compatibility table for specific hosts.

If your Bluetooth software is not compatible, you can test your scanner with Hyperterminal or Kemul. Refer to Communication Protocol documentation. (Download on http://www.baracoda.com/download.)

3. Configure the BaracodaManager.
    - Start the BaracodaManager by selecting Start> Programs> BaracodaManager> BaracodaManager. The application automatically searches for wireless scanners.

- Place the scanner in discovery mode by pressing the trigger button.
- Highlight the scanner in the Devices in Range box and click the Add Button.
- The Bluetooth Stack asks for the passkey. While the message displays, click on the Bluetooth connection icon in the system tray at right side of the task bar.
- Enter **0000** as the default Bluetooth Passkey Request dialog box.
- Look at the status of the scanner in the BaracodaManager application window. When the status changes to “connected”, the scanner is ready to be used.

4. The first time the scanner is configured, the BaracodaManager opens a terminal window. Scan a barcode and the data will appear in the terminal window
    - Close the Terminal window by clicking on exit
    - Select the Kemul plug-in from the drop down menu. For more information, see the BaracodaManager documentation.
5. When you have finished your session, click on the Exit Button of the application to save your configuration.

6.1.3. For developers: Baracoda Software Development Kit (SDK)

The Baracoda SDKs are created for developers who want to integrate the barcode collection functions into their own program code, thus enabling end-users to run a single software program. This eliminates the need to run the Baracoda Manager software in addition to a third party application.

BaracodaManager uses libraries that provide an abstraction layer allowing developers to integrate Baracoda products into their own application very rapidly. Moreover, these libraries will deal with all the low-level routines, timeouts, connections and configuration management.

These libraries are available to developers for free (www.baracoda.com for more information)

7. Configuring your scanner

There are two (2) ways to configure your scanner:

- When connected to a host device, the BaracodaManager software can be used for multiple setting changes
- The Configuration barcodes In the Programming Guide can be used to configure the scanner without using outside software applications.

7.1. Reset your scanner.

To reset the scanner to its "default settings", use BaracodaManager software or scan the Reset configuration barcode.

Reset

7.2. Security

The Bluetooth connection is secured with a PIN code authentication.

You can configure security (enable/disable/change PIN code) through BaracodaManager software and through configuration barcodes.

The Security is enabling by default: default PIN code is **0000**.

7.3. Symbology

You can enable/disable any type of barcode decoders with both the BaracodaManager software or with the Programming Guide.

7.4. Data format

The data format is the following :

Header	General_Prefix	Symbology_Prefix	Barcode	Symbology_Suffix	General_Suffix

7.4.1. Baracoda Header

It is a proprietary data encapsulation. It is necessary to activate the Baracoda header in 2 cases:

- to use the Baracoda keyboard emulation (Kemul) and Terminal.
- to use the “No data loss” mode.

You can configure Baracoda Header through BaracodaManager software.

The Baracoda header is enabled in default settings.

7.4.2. General Prefix / Suffix

A prefix and/ or suffix can be added to every barcode sent to the host device. You can configure prefix/suffix through BaracodaManager software or with the Programming Guide.

There is no prefix/suffix in default settings.

7.4.3. Symbology Prefix / Suffix

A prefix and/or suffix can be added to a specific symbology barcode sent to a host device.

Meaning a certain prefix/suffix will be added while reading a specific symbology.

You can configure prefix/suffix through BaracodaManager software.

There is no “symbology prefix/suffix” in default settings.

7.4.4. Barcode Identifier

The scanner can transmit a maximum of 3 digit barcode identifier codes for different types of barcodes (symbologies).

If the option is selected, the barcode identifier is added at the beginning of the barcode frame.

List of identifier codes can be found in the Programming Guide. You can activate barcode identifier through BaracodaManager software or with the Programming Guide.

The barcode identifier is disabled in default settings.

7.5. Beeps and LEDs

You can enable/disable Beeps / LED Lightening using both the BaracodaManager software or the Programming Guide.

7.6. Power management

Mutliple parameters exist to optimize the battery autonomy (“Sniff period”, “Shutdown timer”, etc…)

D-Fly works at 10 dBm (Bluetooth Class.2).

The BaracodaManager software can be used for multiple setting changes.

7.7. Low battery

An alternation of red and green blinking on the LED indicates that the battery level is low. Recharge battery immediately. If you continue using the scanner, it will continue working until a triple beep occurs: at that moment the reader will shut down and you will be forced to charge the scanner.

Safety / Regulatory.

FCC:

Product FCC Id: QSHAIBDF

Interference statement:

This device complies with Part 15 (class C) of the FCC Rules.

Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Modification statement:

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Baracoda Wireless Technology, may void the user's authority to operate the equipment.

Wireless notice

This product emits radio frequency energy, but the radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact with the antenna during normal operation is minimized. The system antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

EU:

This equipment is intended to be commercialised in all the countries of the European Union and there is no commercialisation or operational restrictions in any of the countries.

Hereby, Baracoda Wireless Technology declares that this Bluetooth barcode scanner is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Limited Warranty.

Manufacturer warrants that the product will be free of defects in material and workmanship for one (1) year from the date of shipment. Manufacturer will, at its option, either repair, replace or refund the purchase price paid by buyer for the defective products.

Such repair, replacement or refund shall be buyer's sole remedy in the event of Manufacturer's breach of this limited warranty. Repaired or replaced parts or product may include new, reconditioned or remanufactured parts and equipment at Manufacturer's option. All costs associated with shipment to Manufacturer for warranty service, including but not limited to freight, duties, insurance and customs fees are buyer's responsibility. Manufacturer will pay the freight costs (duties, insurance, customs and any other fees are buyer's responsibility) associated with the return shipment to buyer. The method of shipment will be at Manufacturer's discretion. Repair or replacement of any parts or equipment does not extend the period of warranty provided for herein. THIS LIMITED WARRANTY IS MANUFACTURER'S ONLY WARRANTY. MANUFACTURER DOES NOT GIVE WARRANTIES OF MERCHANTABILITY OR WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. To take advantage of this warranty, buyer should contact the seller not the Manufacturer. The warranty set forth herein does not cover and Manufacturer will have no obligations hereunder if any non-conformance is caused in whole or in part by; accident, transportation, neglect, misuse, alteration, modification, or enhancement of the products or incorporation, interfacing, attachment of any feature, program, or device to the Products by a person or entity other than Manufacturer, failure to provide a suitable installation environment, use of the products for other than the specific purpose for which the products are designed or any use of the product not in accordance with the User Guide or other misuse or abuse of the product. The warranty does not cover problems linked to batteries.